DOCUMENT RESUME

ED 091 741 CS 201 346

AUTHOR	Golub, Lester S.
TITLE	Syntactic Density Score (SDS) with Some Aids for Tabulating.
PUB DATE	73
NOTE	9p.; See related documents CS 201 320-375
EDRS PRICE	MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS	*Composition (Literary); *Educational Research; High School Students; Intermediate Grades; Language Arts; *Measurement Instruments; Primary Grades; Reading Skills; Research Tools; Resource Materials; *Syntax
IDENTIFIERS	*The Research Instruments Project; TRIP

ABSTRACT

The Syntactic Density Score (SDS) is designed to determine the syntactic density of the oral and written discourse of students in grades 1-14, as well as that of reading materials selected for students. The SDS can be hand tabulated; however, a computer program is available which can determine the score from any corpus of material typed into the computer. Factors that affect readability, and therefore increase the syntactic density score of a piece of writing, include higher frequencies of complex sentences, long subordinate clauses, prepositional phrases, expanded verbs, possessives, and adverbs of time--all in addition to the usual considerations of vocabulary and sentence length. Practice exercises plus aids for tabulation are available from the author. [This document is one of those reviewed in The Research Instruments Project (TRIP) monograph "Measures for Research and Evaluation in the English Language Arts" to be published by the Committee on Research of the National Council of Teachers of English in cooperation with the ERIC Clearinghouse on Reading and Communication Skills. A TRIP review which precedes the document lists its category (Reading/Writing), title, author, date, and age range (primary, intermediate, junior high, senior high, postsecondary), and describes the instrument's purpose and physical characteristics.] (WR)

NCTE Committee on Research

The Research Instruments Project (TRIP)

ED 091741

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Measures for Research and Evaluation
in the English Language Arts

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CS 201 346

NATIONAL COUNCIL OF TEACHERS OF ENGLISH
1111 KENYON ROAD
URBANA, ILLINOIS 61801

Category: Reading/Writing

Title: "Syntactic Density Score" (SDS)

Author: Lester S. Golub

Age Range: Primary, Intermediate, Jr. High, Sr. High, Post-Secondary

Description of Instrument:

Purpose - To determine the syntactic density of the oral and written discourse of students in grades 1-14, as well as that of reading materials selected for students.

Date of Construction - 1973

Physical Description - The SDS can be hand tabulated; however, a computer program is available which can determine the score from any corpus of material typed into the computer. Practice exercises, as illustrated, plus aids for tabulation, are available from the author. Factors that affect readability, and therefore increase the syntactic density score of a piece of writing, include higher frequencies of complex sentences, long subordinate clauses, prepositional phrases, expanded verbs, possessives, and adverbs of time--all in addition to the usual considerations of vocabulary and sentence length.

The sample passage:

I was not formally introduced to the lemming. I have since learned, however, that his family name was Lemmus Lemmus, of the family Microtinae. He was five inches long and covered with tawny yellow fur. He did not run away when he saw us. But backed up against a birch root and looked as fierce as he could, which was not very fierce.

We squatted down to look at Lemmus, slapping away at the mosquitoes, which were eating our knees through our trousers, while Lemmus looked fiercely back at us. He seemed a rational enough creature.

Yet the lemming legend, Gustafson told me, is quite true. The lemmings breed very fast, and when there are too many of them for the amount of food they can find in the district, they all set off to go somewhere else. They travel toward the lower-lying land and the distant sea, and on the way they eat anything that is handy to be eaten, which is mostly stuff that the people of of those parts would prefer to eat themselves. Lemmings are vegetarians, so they do not actually eat the cows, but the cows have to get along on what the lemmings leave.

The lemming hoarde is understandably unpopular. On its journey, which may take many months, it is attacked and set upon from all sides.

The tabulation sheet:

Variable No.	Variable Description	Loading	Freq.	vlxf
	Total no. of words		203	
	Total no. of T-units		16	
1.	Words / T-unit	.95	12.7	12.1
2.	Sub. clauses / T-unit	.90	.87	.78
3.	Main clause word length (mean)	.20	3.2	1.64
4.	Subord, clause word length (mean)	.50	6.3	3.1
5.	Number of modals	.65	5	3.2
6.	Number of Be and Have forms in the auxiliary position	.40	5	2.0
7.	Number of prepositional phrases	.75	18	13.5
8.	Number of possessives	.70	4	2.8
9.	Number of adverbs of time	.60	3	1.8
10.	Number of gerunds, participals, absolute phrases (unbound modifiers)	.85	2	1.7
	Total			42.62
	Syntactic Density Score (Total divided by No. of T-units)			2.7
	Grade Level Conversion			4.0

Grade Level Conversion Table:

SDS	.5	1.3	2.1	2.9	3.7	4.5	5.3	6.1	6.9	7.7	8.5	9.3	10.1	10.9
Grade Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Validity, Reliability and Normative Data:

The final paper on the development and validation of the SDS is still in progress.

Ordering Information:

EDRS

Further Information -

Lester S. Golub
Professor of English Education
145 Chambers Building
The Pennsylvania State University
University Park, Pennsylvania 16802

Lester S. Golub
"Syntactic Density Score"
1973

Some Aids for Tabulating Golub's SYNTACTIC DENSITY SCORE

Besides vocabulary and length of sentences, there are some other vactors that affect readability. Higher frequencies of complex sentences, long subordinate clauses, prepositional phrases, expanded verbs, possessive, and adverbs of time have been found to increase the syntactic density score of a piece of writing.

Some aides for tabulation:

1. T-unit: count as a T-unit a main clause with all of its dependent clauses.

2. Subordinate clauses: watch for subordinate conjunctions:

after	so that
although	that
as	than
as much as	though
because	till
before	unless
how	when
inasmuch as	where
in order that	wheroever
provided that	whether
since	while

also: who, whoever, whom, whomever, whose, whosever, which, how

3. Modals:

could	should
can	will
may	shall
might	must
would	ought to

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4. Forms of be and have:

be	been
is	has
are	have
am	had
was	isn't
were	
being	

5. Prepositions:

about	below	from	to
above	beneath	in	toward
across	beside	into	under
after	between	like	underneath
against	beyond	of	until
along	by	off	unto
amid	concerning	on	up
among	down	over	upon
around	during	past	with
at	except	since	within
before	for	through	without
behind	besides	throughout	

6. Possessives

Include possessive nouns and the following pronouns:

my	hers
mine	our
your	ours
yours	their
his	theirs
her	its

7. Adverbs of time:

when	now	often
then	after	always
once	afterwards	never
while	lately	before
whenever	immediately	beforehand
soon	yesterday	tonight
soonest	today	early
later	sometimes	forever

COMPETENCY MEASURE # 2

Apply Golub's SYNTACTIC DENSITY SCORE to the following passage:

This very minute lizard with changeable colors is catching insects with the end of a tongue as long as its body. Close to the bottom of a river, a fish is defending itself by jolting its enemies with built-in electric shock equipment. In the tropics an almost brainless mammal is spending a large part of its life upside down. And on another part of the earth a queer, furry, leathery-beaked animal with poisonous spurs on its hind legs is laying eggs.

These are only a few of the strange beasts that you can see in the world today. All of them are very much alive although they may appear too astonishing to be real. But a great many years from now a lot of them will have vanished forever. Those kinds which remain will probably be so changed that you would hardly recognize them. We know that this will happen because dozens of scientists have shown that nearly every living thing is always turning into something a little different or disappearing entirely. The earth itself is constantly changing, too.

We have fossil remains that show us the changes that have taken place throughout the ages in certain animal and fish groups.

from Popular Science Monthly

Lester S. Golub
Professor of English Education
Pennsylvania State University
University Park, PA

SYNTACTIC DENSITY SCORE

Tabulation Sheet

Variable Number	Variable Description	Variable Loading	Frequency	VLXF
	Total number of words			
	total number of T-units			
1.	Words/T-unit	.95	X _____	
2.	Subordinate clauses/T-unit	.90	X _____	_____
3.	Main clause word length (mean)	.20	X _____	_____
4.	Subordinate clause word length (mean)	.50	X _____	_____
5.	Number of Modals (will, shall, can, may, must, would.....)	.65	X _____	_____
6.	Number of Be and Have forms in the auxiliary	.40	X _____	_____
7.	Number of Prepositional Phrases	.75	X _____	_____
8.	Number of Possessive nouns and pronouns	.70	X _____	_____
9.	Number of Adverbs of Time (when, then, once, while...)	.60	X _____	_____
10.	Number of gerunds, participals, and absolute phrases (unbound modifiers)	.85	X _____	_____
	Total			_____

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SDS
S.D. Score (Total/No. of T-units) _____

Grade Level Conversion _____

Grade Level Conversion Table:

SDS	.5	1.3	2.1	2.9	3.7	4.5	5.3	6.1	6.9	7.7	8.5	9.3	10.1	10.9
Grade Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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